

## **IN THE CLAIMS**

1 1. (currently amended) A wireless mobile communications network including a  
2 base station and a plurality of mobile nodes, comprising:

3 a first mobile node configured as a major node to communicate information  
4 directly with the base station via a network link; and

5 a second mobile node configured as a minor node to communicate the  
6 information indirectly with the base station via a local link with the major node and  
7 the network link from the major node to the base station to form a locally linked  
8 mobile network within the wireless mobile communications network, wherein the  
9 communicating of the information is dynamically routed to optimize a quality of  
10 service of the wireless mobile communications network and the locally linked  
11 network.

1 2. (original) The wireless mobile communications network of claim 1 wherein each  
2 mobile node further comprises:

3 a header detector, coupled to a receiver and a decoder, configured to detect a  
4 header in a frame used to communicate the information;

5 a message processor, coupled to the header detector and a transmitter,  
6 configured to route the frame over the network link and the local link.

1 3. (original) The wireless mobile communication network of claim 2 wherein the  
2 header detector is connected to an output of the decoder and the locally linked  
3 mobile network operates asynchronously.

1 4. (original) The wireless mobile communication network of claim 2 wherein each  
2 mobile node further comprises a GPS receiver and the locally linked mobile  
3 network operates synchronously.

1 5. (original) The wireless mobile communication network of claim 2 wherein the  
2 major node communicates the frame while in standby mode, and the minor node  
3 receives the frame in active mode.

1 6. (original) The wireless mobile communications network of claim 2 wherein the  
2 mobile nodes are cellular telephones.

1 7. (original) The wireless mobile communications network of claim 1 wherein each  
2 mobile node further comprises:  
3 a display, coupled to the message processor, to display a warning message  
4 when the mobile node communicates information with the base station via the  
5 network link and with the minor node via the local link.

1 8. (previously presented) The wireless mobile communications network of claim 2  
2 wherein each frame includes a header.

1 9. (original) The wireless mobile communications network of claim 8 wherein the  
2 header includes a code word, and control information.

1 10. (original) The wireless mobile communications network of claim 9 wherein the  
2 code word is a Walsh code word.

1 11. (original) The wireless mobile communications network of claim 9 wherein the  
2 code word is a forward code word and the control information includes a list of a  
3 plurality of major nodes and a list of a plurality of minor nodes.

1 12. (original) The wireless mobile communications network of claim 9 wherein the  
2 code word is a destination code word and the control information identifies the  
3 minor node and the major node.

1 13. (original) The wireless mobile communications network of claim 9 wherein the  
2 code word is a routing code word and the control information identifies the major  
3 node and the control information indicates an amount of available bandwidth.

1 14. (original) The wireless mobile communications network of claim 9 wherein the  
2 code word is a receive code word.

1 15. (original) The wireless mobile communications network of claim 2 wherein the  
2 message processor of the major node replaces a forward code word in a header of  
3 the frame with a receive code word, the forward code word identifying the major  
4 node and the receive code word identifying the minor node.

1 16. (original) The wireless mobile communications network of claim 1 wherein the  
2 base station monitors bandwidth of the locally linked mobile network.

1 17. (currently amended) The wireless mobile communications network of claim 1  
2 wherein a configuration list of the nodes of the locally linked mobile network is  
3 adaptively adjusted by the base station depending on need, traffic type, link  
4 quality, coverage, utilized bandwidth, and mobility.

1 18. (original) The wireless mobile communications network of claim 1 wherein  
2 each mobile node monitors a quality of the network link with the base station.

1 19. (original) The wireless mobile communication network of claim 4 wherein the  
2 GPS receiver estimates position, speed, and bearing of the mobile node.

1 20. (original) The wireless mobile communication network of claim 4 wherein  
2 each mobile node uses channel quality and mobility characteristics to determine  
3 suitability for operating as the major node.

1 21. (original) The wireless mobile communication network of claim 1 wherein the  
2 locally linked mobile network includes a plurality of major nodes configured to  
3 communicate information with each other and the minor node.

1 22. (original) The wireless mobile communication network of claim 1 wherein the  
2 base station includes a memory to store a configuration list to associate the major  
3 node with the minor node.

1 23. (original) The wireless mobile communication network of claim 22 wherein the  
2 minor node is associated with a plurality of major nodes.

1 24. (canceled)

1 25. (original) The wireless mobile communications network of claim 1 wherein the  
2 locally linked mobile network operates in multicast mode.

3  
4 26. (original) The wireless mobile communications network of claim 2 wherein  
5 each frame is encrypted using a pseudo random number sequence.

1 27. (original) The wireless mobile communication network of claim 1 wherein the  
2 major node operates in active mode while receiving low bandwidth frames  
3 intended for the major node, and high bandwidth frames intended for the minor  
4 node.

1 28. (original) The wireless mobile communications network of claim 1 including a  
2 plurality of major nodes and the base station selects a particular one of the plurality  
3 of major nodes to communicate with the minor node based on available bandwidth  
4 between the major node and the base station.

1 29. (previously presented) The wireless mobile communications network of claim  
2 1 including a plurality of base stations and a plurality of major nodes and minor  
3 nodes communicating with each other via network links and local links.

1 30. (original) The wireless mobile communications network of claim 29 wherein a  
2 first major node communicates with a first base station and a first minor node, and  
3 a second major node communicates with a second base station and a second minor  
4 node to enable the first and second minor nodes to communicate indirectly with  
5 each other via the first and second major nodes and the first and second base  
6 stations.

1 31. (original) The wireless mobile communications network of claim 29 wherein  
2 minor nodes are dynamically assigned to different major nodes depending on a  
3 quality of service of the network link and the local link.

1 32. (original) The wireless mobile communications network of claim 1 further  
2 including an end of transmission signal to indicate an end of communicating the  
3 information.

1 33. (original) A method for communicating information in a wireless mobile  
2 communications network including a base station and a plurality of mobile nodes,  
3 comprising:

communicating information directly between a first mobile node  
configured as a major node and the base station via a network link; and  
communicating the information indirectly between the base station and a  
second mobile node configured as a minor node via the network link between the  
base station and the major node and a local link between the major node and the  
minor node.

34. (original) The method of claim 33 further comprising:

detecting a header of a frame received in the major node; and  
routing the frame to the minor node via a message processor of the major  
node.

35. (previously presented) In a wireless mobile communications network that  
includes a base station and a plurality of mobile nodes, each mobile node  
comprising:

a receiver coupled to an antenna;  
a header detector coupled to the receiver to detect a header in a received  
frame from the base station;  
a decoder coupled to the header detector to decode the received frame, the  
detected frame to be transmitted to another mobile node;  
a message processor to reformat the frame;  
an encoder to encode the reformatted frame; and  
a transmitter to transmit the encoded frame to the other mobile node.

1 36. (original) The mobile node of claim 35 wherein the header detector is  
2 connected to an output of the decoder and the plurality of mobile nodes operate  
3 asynchronously.

1 37. (original) The mobile node of claim 35 wherein each mobile node further  
2 comprises a GPS receiver and the plurality of nodes operate synchronously.

1 38. (original) The mobile node of claim 35 wherein the mobile node communicates  
2 the frame while in standby mode, and the other mobile node receives the frame in  
3 active mode.

1 39. (original) The mobile node of claim 35 wherein the header is a forward header  
2 that identifies the other mobile node.

1 40. (original) The mobile node of claim 35 further comprising:  
2 a display, coupled to the message processor, to display a warning message  
3 when the mobile node is communicate information between the base station and  
4 the other mobile node.

1 41. (original) The mobile node of claim 35 wherein the mobile node monitors a  
2 quality of the network with the base station.

1 42. (original) The mobile node of claim 1 wherein the mobile node is a cellular  
2 telephone.



- 1 43. (original) The mobile node of claim 1 wherein the mobile node is a palm top
- 2 computing device.